

By John Platero

GENU VALGUM & GENU VARUM

A friend of mine went on a bicycle ride with me, and after about an hour started to experience severe knee pain. After checking her lower extremity I found she had "knock knees". The clinical term for "knock knees" is Genu Valgum. The opposite would be "bowleggedness" or Genu Varum. Since Genu Varum isn't normally associated with pain or problems, we'll concentrate on my friend with Genu Valgum. However, both of these conditions are the resultant of the Q-angle.

The Q-angle is determined in the frontal plane by drawing a line from the anterior superior spine of the ilium to the middle of the patella, and a second line from the middle of the patella down to the tibial tuberosity. A normal Q-angle for quadriceps femoris function is usually 10 -14 degrees for males and 15 -17 degrees for females. (see diagram).

Anyway, back to my friend. When assessing the lower extremity you have to "get out of the box" sort of speak, says Ruben Salinas PT, OCS. Ruben is the clinical director of the Fortansce and Associates Physical Therapy clinic in Arcadia " Don't just focus where the pain lies look at the whole picture. Remember, the lower extremity is a closed chain, especially in cycling."

Normally associated with Genu Valgum you'll find pronation or flat feet, tight gastrocnemius and in some cases it may lead to trochanteric bursitis.

Let's look at one at a time:

At the ankle, the body will try and compensate for the valgus stress at the knee (tensile forces on the medial side of the knee; compressive forces on the lateral side) by pronating. In gait, one has to dorsiflex one ankle in order to swing through with the other leg. If your clients gastroc is tight, they won't be able to dorsiflex, which will cause the foot to cave in or pronate. This will indeed affect the knee and then the hip. To lengthen the gastroc, have your client stretch. Be careful to insure their foot doesn't cave in while stretching. If needed, support the inside of their foot with a wooden block so their foot won't pronate.

For the tibialis posterior (which is an inverter and crosses the ankle) have your client perform "windshield wipers." By strengthening the inverters, (see diagram) you'll cause the foot to supinate which is the opposite of pronation.

Here's how: Lie a light weight on a towel. With their feet

flat on the floor have the person slide the weighted towel inwards towards their other foot. There are other ways of strengthening the foot, but that's a whole other article.

My friend wasn't complaining about her feet though, the pain was on the lateral or outside part of her knee.

So let's examine the knee:

Because of the excessive Q-angle there will be more compressive forces on the lateral side and more tensile or distraction forces on the medial side of the knee. So how do you fix that?

"This is topic a large grey area in the physical therapy world," says Ruben

He is an expert on knees. VMO

weakness or the inability to fire has been suggested as the culprit for patella - femoral dysfunction. The experts still can't agree. It's definitely worth trying though. To increase VMO activity, try quad sets in all directions or, have your client put a small ball or a rolled up towel between their legs when they perform leg extensions. Have them squeeze tightly or adduct at the top of the extension.

Another method Ruben suggests is Bio-feedback. Have the client put their hands on both the vastus lateralis and vastus medialis, then have them contract their leg.

Through their fingers they should be able to feel which side contracts first. Try and get them to "fire" the inside (vastus medialis) first. It would be nice if you had some surface EMG's, but hey, we're just trainers!

At the hip, you'll often find weak external rotators. It's almost as if the head of the femur has rolled forward and inward. When this happens, the greater trochanter starts to smash up against a bursa which eventually could lead to bursitis.

The external rotators of your hip are the key here. Concentrate on the gluteus maximus and not the gluteus medius. Remember, the medius is an internal rotator.

Don't forget the deep external rotators either. By performing external rotation with a cable or tubing attached around the ankle, you will strengthen the piriformis, superior and inferior gemellus, obturator externus and internus as well as the quadratus femoris. This will help stabilize the hip so that smashing of bone against bone doesn't occur.

Be aware, some clients may have anteversion. This is the angle of the femoral neck in the frontal plane. (see diagram).

Anteversion will turn the toe turn inwards, increase mechanical advantage of the gluteus maximus as an external rotator, increase the Q-angle and cause more pronation at the foot. Anteversion is structural, so you can't repair that without a scalpel and a chain saw.

In conclusion, I hope you can see that in the case of the lower extremity you must take a holistic approach. Ask a lot of questions. How did they get this way? Is the condition acute or chronic? Is it congenital? Is it structural or muscular? Examine their gait.

If there is pain when performing these exercises, refer them to a specialist and definitely get a medical release before you train them.

I hope this will help you and your clients, and I sincerely hope you'll assess their posture before you load anyone with a weight.

By the way, after a little RICE, my friend was able to walk again. Now she just needs one of you to train her.

TRAINER'S MEETINGS

I wanted to thank everyone who attended the meetings with Chad Abramo and myself.

We feel the meetings were positive and hope everyone will dress professionally, identify themselves as a trainer when working, perform quality intros and concentrate on the referrals. Below you'll find a synopsis written by Brock Hall, the head trainer in Chino.

The meeting should serve as a wake up call for all of us who make a living as trainers. This program that we all benefit from could come to an end quickly, and probably will if things do not change. Change, may not be the appropriate word. All we are being asked to do is abide by the contracts we all signed. The good news from the meeting was that we have one of the best, if not the best club in LA FITNESS chain. However, we need to make a

few improvements. A few of the most critical issues addressed were:

Professionalism:

* Trainers must dress appropriately. A professional attire would be a uniform or clean pressed gym wear with identification distinguishing trainers as such. Trainers should not look like they are working out.

* There is NO EATING on the gym floor. Food may be eaten in the vicinity of the juice bar.

* Trainers are not to use LA FITNESS phones (even before the club staff arrives).

Use the pay phone in the locker room.

* Do not use the equipment from or in the aerobics room. The aerobics room may be used while classes are not in session.

Intro appointments:

* Please try to open up time for two appointments per week if you have the time.

* Please show up early.

* Follow the Introductory Workout Protocol Sheet.

Referrals:

* Do not pay club employees for referring clients to you.

No payola.

* You can get paid for referring clients to LA FITNESS (see me for info if you don't know how)

Due to the importance of adherence to our contracts, violations will be taken seriously. One official warning will be given, second violations will be dealt with by a 30-day termination of contract notice.

The club staff has been instructed not to accept phone calls or take messages for trainers. Please don't put them in an awkward position by asking them to do differently.

Finally, please keep the trainers desk clean. Store materials you don't need to use constantly in a locker, the closet, or your car. Please tell your clients not to put their bags in the trainers circle, even early in the morning. There is no reason clients should be doing this. Have them get a locker. When clients put their things in the desk area, every other member thinks it's OK for them as well.

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It's time to get ready for the new melinneim. Everything is going plastic. Don't get left behind. This is a great should be on all of your flyers, cards, price sheets or advertisements. If you need stickers, let me know.

- In the event of an accident where someone is injured, please go to the front desk and ask for an "incident report". Fill it out, make a copy for yourself, fax a copy to me at 888-287-0801 and give the other to the front desk. This way, you're covered.
- If you have not received a "trainers card", or you have moved, call 800-600-2540, ext 561 and ask for Jim Irwin. Give him your correct address, so you can be sent

oppoprtnuity to expand your business! Call them now, don't hesitate, January and all the New Year's resolutions are coming.

CLUB POLICIES

If you want to change your EFT, you must do so a month in advance.

Go to the front desk and get an EFT form, fill it out and fax it to me at 310- 287-0801 or Chad Abramo at 714-509-2507 if you want to make any changes.

- Please show your card to the front desk at least once a day.

Do not use the LA FITNESS name or logo on any of your flyers without the prior written approval from LA FITNESS. Also, the statement " Independent Contractor not affiliated with LA FITNESS" a card.

- This is a reminder; you will be charged a 10% late fee plus a \$10 bank charge if your rent check comes back to us. We will also deny you entry to the club until you pay the balance. If your rent is \$300 it will cost you \$340 to get back in to the club. THERE WILL BE NO MORE EXCEPTIONS.

UPCOMING EVENTS

OPTIMAL STRENGTH TRAINING WITH ELASTIC RESISTANCE

Sat. 12:30 - 4:00 pm

Nov. 14, 1998

Gold's Gym/Crescenta Valley

call 626-585-2290

CEC's: NASM 3.0

FUTURE FITPERSONAL TRAINING SCHOOL

8:00am - 6:00 pm

Sat. - Sun., November 21-22,

LA FITNESS - Marina Del Rey

CEC's: ACE, AFAA, ISSA, NASM, NSCA

1-800-778-6060 TO REGISTER

POST-REHAB FITNESS SPECIALIST

8:00 - 6:00 both weekends

Sat. - Sun. January 23-24 and Feb. 27-28

A FITNESS - Miracle Mile

CEC'S: ACE, AFAA, ISSA, NASM, NSCA.